

**Cross-sectional study on Menstrual hygiene practices among Adolescent
Girls in selected district of Ramgarh, Jharkhand, India**

by
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PG/21/029
PGDM (Hospital and Health Management)

**A Dissertation submitted for the partial fulfillment of the requirement for
the award of the PGDM [equivalent to MBA] in Hospital and Health
Management**

Under the guidance of
Dr. Mukesh Ravi Raushan,
Assistant Professor, IIHMR-Delhi

Internship Training
At
Tata Steel Foundation, Jamshedpur, Jharkhand



International Institute of Health Management Research,
New Delhi, India
2021-23

Completion of Dissertation

Completion of Dissertation

The certificate is awarded to

Dr. Deepti Sidar

In recognition of having successfully completed her internship in the Public Health vertical of Tata Steel Foundation's

ADOLESCENT HEALTH PROGRAM

She has successfully completed her project on

"Menstrual Hygiene Practices among Adolescent Girls in Mandu and Baghmara blocks of Jharkhand, India."

Date of Submission: 24-05-2023

Organization: Tata Steel Foundation, Jamshedpur

She comes across as a committed, sincere & diligent person who has a strong drive and zeal for learning.

We wish all the best for her future endeavors.

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The Candidate has successfully carried out the study designated to him during internship training and his/her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfilment of the course requirements.

I wish him all success in all his/her future endeavours.

Dr. Sumesh Kumar
Assistant Professor & Associate Dean
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Dr. Mukesh Ravi Raushan
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Certificate of Approval

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The following dissertation titled “**Cross-sectional study on Menstrual Hygiene Practices among Adolescent Girls in Mandu and Baghmara blocks of Jharkhand, India.**”

at “**TATA Steel Foundation, Jamshedpur**” is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **PGDM (Hospital & Health Management)** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

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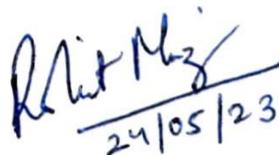
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This is to certify that **Dr. Deepti Sidar**, a graduate student of the PGDM (Hospital & Health Management) has worked under our guidance and supervision. She is submitting this dissertation titled "**Cross-sectional study on Menstrual Hygiene Practices among Adolescent Girls in Mandu and Baghmara blocks of Jharkhand, India.**" at "Tata Steel Foundation, Jamshedpur." in partial fulfilment of the requirements for the award of the PGDM (Hospital & Health Management).

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report, or book.

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Certificate by Scholar

**INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT
RESEARCH, NEW DELHI**

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **Cross-sectional study on Menstrual hygiene practices among Adolescent Girls in Mandu and Baghmara blocks of Jharkhand, India** and submitted by **Dr. Deepti Sidar**, Enrollment no. **PG/21/029** under the supervision of **Dr. Mukesh Ravi Raushan**, for award of PGDM (Hospital & Health Management) of the Institute carried out during the period from 20.2.2023 to 20.5.2023, embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.



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Feedback Form

FEEDBACK FORM

Name of the Student: Dr. Deepti Sidar

Name of the Organization in which
Dissertation Has Been Completed: Tata Steel Foundation

Area of Dissertation: Adolescent Health Program (RISHTA)

Attendance: 100%

Objectives achieved: Yes

Key Deliverables:

- To revisit the operational manual on RISHTA (Regional Initiative for Safe Sexual Health) based on Adolescent Health and identify potential gaps and improve upon the planning, approaches, and its implementation at the ground level in selected 10 districts of Jharkhand and Odisha.
- To conduct cross-sectional study on "Menstrual Hygiene Practices among Adolescent Girls in Mandu and Baghmara blocks of Jharkhand."

Strengths: Hard working, Dedicated to work, Passionate.

Suggestions for Improvement (if any) :

Suggestions for Institute (course curriculum, industry interaction, placement, alumni):

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Place: Jamshedpur
TSF


Signature of the Officer-in-Charge



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Date: July 24, 2023

Place: New Delhi

Deepti Sidar

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List of Abbreviations

ASHA- Accredited Social Health Activist

AWW- Anganwadi Worker

MHM- Menstrual Hygiene Management

MHP- Menstrual Hygiene Practices

NFHS- National Family Health Survey

WHO- World Health Organization

ABOUT THE ORGANIZATION: THE TATA STEEL FOUNDATION

A Introduction:

Tata Steel Foundation is the philanthropic arm of Tata Steel, one of the largest steel companies in the world. It was established in 1983 with the aim of carrying out various corporate social responsibility (CSR) initiatives and contributing to the sustainable development of communities around Tata Steel's operations. The foundation focuses on sectors such as education, healthcare, livelihoods, environment, and infrastructure.

B Mission:

The mission of Tata Steel Foundation is to empower communities, promote inclusive growth, and improve the quality of life for people living in and around the areas where Tata Steel operates. The foundation strives to create sustainable development models that address social, economic, and environmental challenges.

C Vision:

The vision of Tata Steel Foundation is to be a catalyst for positive change by leveraging Tata Steel's resources, expertise, and influence to uplift communities and foster sustainable development. The foundation aims to be recognized as a leader in corporate social responsibility, setting standards for impactful initiatives and responsible business practices.

D Values:

Tata Steel Foundation operates based on the core values that guide its actions and decision-making processes. These values include:

1. Integrity: Upholding the highest standards of honesty, transparency, and ethical behaviour in all endeavours.
2. Excellence: Striving for excellence in everything the foundation undertakes, aiming for the highest standards of quality and impact.
3. Empathy: Demonstrating empathy towards the needs and aspirations of communities, ensuring that initiatives are people-centric and inclusive.
4. Collaboration: Engaging in meaningful partnerships and collaborations with various stakeholders, including government bodies, non-governmental organizations, and local communities, to maximize the impact of initiatives.
5. Sustainability: Promoting sustainable development by considering the long-term environmental, social, and economic implications of projects and initiatives.
6. Innovation: Encouraging innovative approaches and solutions to address social challenges and create positive change.
7. Respect: Respecting the dignity, diversity, and rights of individuals and communities, while fostering an inclusive and equitable environment.

E Core activities:

Tata Steel Foundation engages in a wide range of core activities as part of its corporate social responsibility initiatives. These activities are designed to address the social, economic, and environmental needs of communities in and around Tata Steel's operational areas. Some of the core activities of Tata Steel Foundation include:

1. **Education Initiatives:** The foundation focuses on improving access to quality education, promoting literacy, and enhancing educational infrastructure. It supports initiatives such as scholarships, vocational training programs, infrastructure development in schools, and initiatives to enhance digital literacy.

2. **Healthcare and Sanitation:** Tata Steel Foundation works towards providing healthcare services and improving sanitation facilities in communities. It supports healthcare centres, hospitals, mobile medical units, awareness programs, and initiatives to improve access to clean drinking water and sanitation facilities.

3. **Livelihood Enhancement:** The foundation aims to enhance livelihood opportunities and empower communities through skill development, entrepreneurship programs, and support for income-generation activities. It promotes vocational training, self-help groups, microfinance initiatives, and market linkages for sustainable livelihoods.

4. **Community Infrastructure:** Tata Steel Foundation invests in the development of community infrastructure such as roads, bridges, community centres, public amenities, and sports facilities.

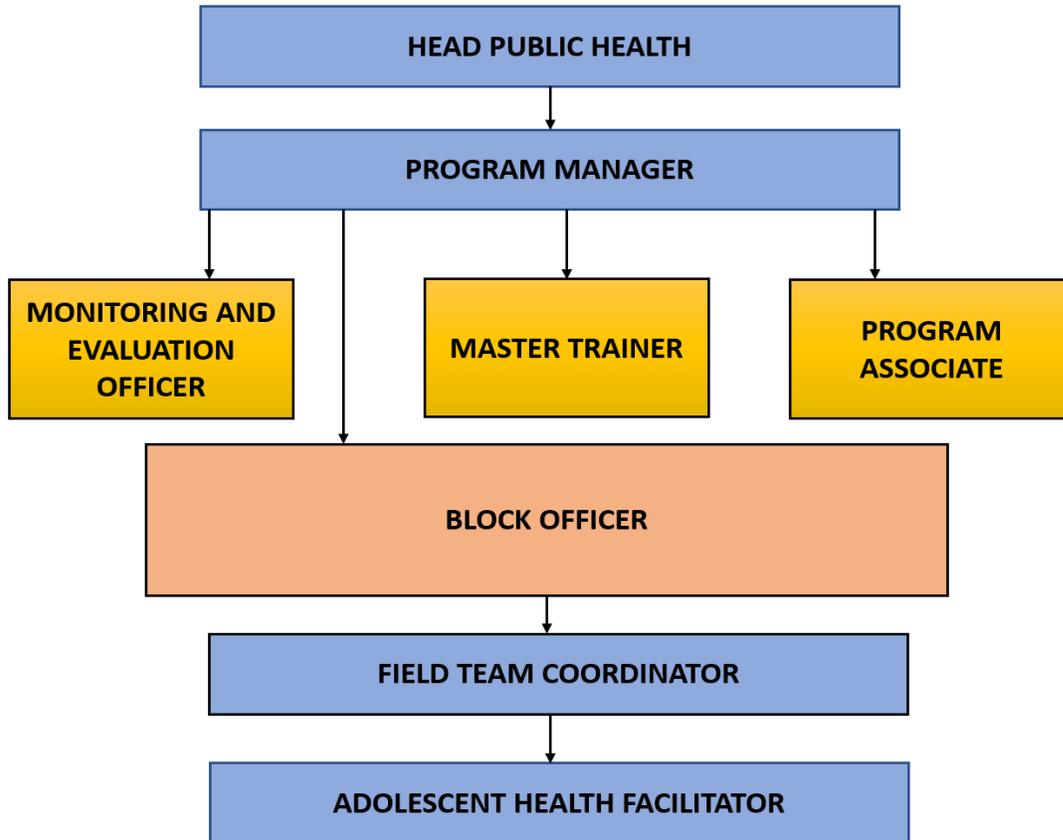
These initiatives contribute to the overall development and well-being of communities.

5. Environmental Sustainability: The foundation emphasizes environmental sustainability and undertakes initiatives for conservation, afforestation, renewable energy, waste management, and sustainable agriculture practices. It promotes environmental awareness and drives initiatives for a greener and more sustainable future.

6. Disaster Response and Rehabilitation: In times of natural disasters or emergencies, Tata Steel Foundation actively participates in relief and rehabilitation efforts. It supports disaster response activities, provides humanitarian aid, and helps in the restoration of affected communities.

7. Cultural Preservation: The foundation recognizes the importance of preserving and promoting local culture and heritage. It supports initiatives to preserve traditional arts, crafts, and cultural practices, thereby fostering a sense of identity and pride within communities.

F Organizational Structure:



G INTERNSHIP TRAINING UNDER THE PROJECT: RISHTA

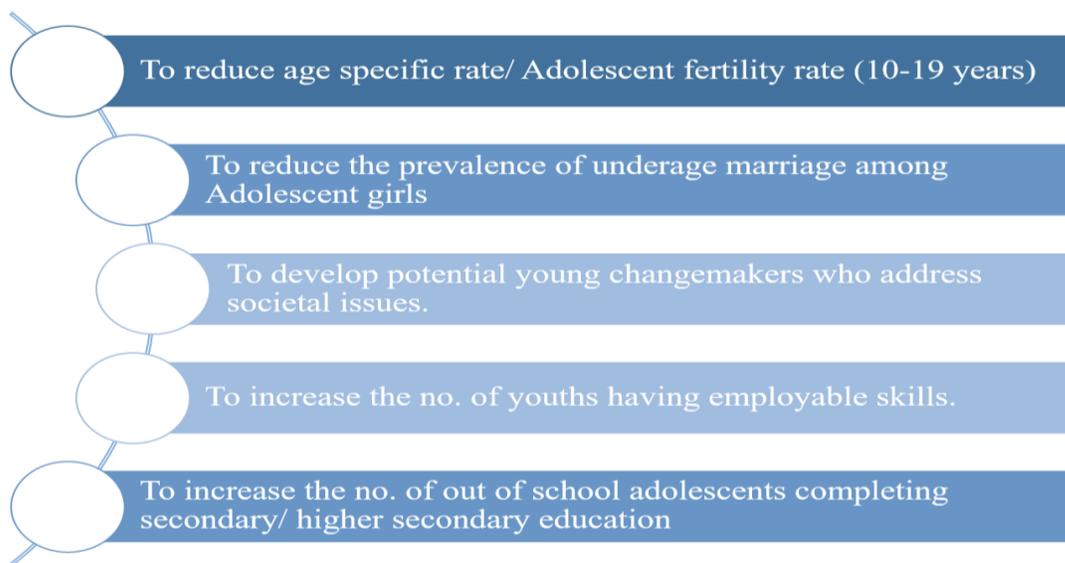
G.A RISHTA- Regional Initiative for Safe Sexual Health

Regional Initiative for Safe Sexual Health by Today's Adolescents, formally known as "Project RISHTA" is a consortium project on **Adolescents' Reproductive and Sexual Health**.

G.B Goals:

Reduction in the prevalence of underage marriages among girls and adolescent fertility rate (10-19 year) by 2027 and building a cohort of young changemakers who are addressing the identified adolescent issues).

G.C Objectives:



RISHTA project focuses on achieving the SDGs 3 (*Ensure healthy lives and promote well-being for all at all ages*) and SDG 5 (*Achieve gender equality and empower all women and girls*)

EXECUTIVE SUMMARY

The purpose of this cross-sectional descriptive study was to analyse adolescent girls' menstrual hygiene practises in Jharkhand, India. The research population included married and unmarried girls aged 15 to 19 living in the Ramgarh and Dhanbad districts' Mandu and Baghmara blocks, respectively. A semi-structured questionnaire was administered at schools and Anganwadis, and data was collected using a purposive but clustered sampling technique. The sample size was calculated using data from the National Family Health Survey (NFHS-5) on the prevalence of appropriate menstrual hygiene practises. The study's goals included establishing the prevalence of sanitary pad use and good hygiene practises, identifying factors impacting menstrual hygiene practises, and assessing menstrual hygiene awareness. Descriptive statistics were used to analyse the data. The outcomes of this study will help to understand the existing state of menstrual hygiene practises in Jharkhand, as well as identify potential barriers and interventions to improve menstrual hygiene management among adolescent girls.

The research gathered 234 females between the ages of 15 and 19, from both moderate and poor socioeconomic backgrounds. The data found that the majority of the females (92.7%) attended school, with only a tiny fraction missing out owing to different factors such as cost, home duties, marriage, or health concerns. Menarche, or the commencement of menstruation, was most common among females under the age of 13 (84.8%). Despite existing taboos, the majority of girls (71.4%) took baths during menstruation, emphasising the significance of refuting misconceptions and supporting accurate hygiene practises. The majority of girls (74%), followed by

siblings/relatives and instructors, acquired knowledge on menstruation and menstrual hygiene from their moms. While the majority of girls (97.9%) used commercially available sanitary pads, a minor fraction (1.7%) still depended on cloth. The study also emphasised the importance of safe disposal practises, since some girls disposed of discarded pads in ecologically hazardous ways.

The research is funded by the Tata Steel Foundation and is devoid of any conflicts of interest. The advantages of studying subjects include greater teenage health knowledge and effective menstrual hygiene practises. Participating in this study has no risks.

This study aims to improve the overall well-being of teenage girls in Jharkhand by addressing gaps in menstrual hygiene management and improving awareness. The findings will be useful to policymakers, organisations, and communities trying to promote better menstrual hygiene practises.

1.1 Background

One of the most significant transformations that girls go through during their adolescent years is the beginning of Menstruation (1)Menstruation is a natural biological event that is commonly considered as a transition from adolescent to womanhood. And a woman undergoes various physiological and psychological changes during this phase of life. Even after this, there are millions of adolescent girls around the world who are denied the right to manage their menstrual cycle in a respectful and healthy manner(2) According to the 2015 UNICEF census, India's teenage population was 239, 441 thousands, accounting for 19% of the overall population. Of these, the majority of the girls had little awareness about menstruation and believe that it contaminates the body and makes them disgusting and dirty. This could be due to a lack of adequate understanding, which could be related to traditional Indian society, in which open discussion of these matters is stigmatised. As a result of the suppression of feelings, they experience extreme mental tension (3).According to the NFHS-5 data, 76.2% of the girls had their menarche at the age of 13-15 years(4). In India, Adolescents girls are not allowed to get involved in home chores or engage in religious or cultural events during their period. Also, adolescent girls do not have any understanding of what is happening in their body and they find it difficult to discuss with anyone and that hardly comes to the notice of their parents. If menstrual hygiene is not practiced, there is a risk of infections of the reproductive and urinary system, which can lead to infertility and birth issues in the future (5). Due to the poor management of menstrual hygiene, there are girls who are

being absent in the class or left going to the school. Recognizing the importance of Menstrual Hygiene Management to girls' health, well-being, and educational attainment, the Government of India has launched a slew of policies and programmed at the state level. Elements important for menstrual hygiene management are the individual's knowledge about menstruation as the normal physiological process, developments that occur in the body of adolescent period and how to deal with menstruation and when to look for a doctor; one's social environment that comprises of encouraging normal menstruation and no taboos or restriction and material environment- which material can absorb excess blood; private and clean facilities to change and dispose the material at home or school or work, pain management for the facilitation of adequate menstrual hygiene management. In India, the type of menstrual absorbents used were commercial pads and cloths or cottons. In urban areas, disposal was primarily through routine garbage and burning, although in rural areas, burying and throwing away in public places was also prevalent. Waste disposal was substantially more common in cities than in rural areas (6). Despite various government initiatives to promote menstrual hygiene in rural areas by providing subsidised sanitary napkins, data from the most recent round of the National Family Health Survey (NFHS-5) show that use of hygienic methods during menstruation is still lower in rural areas than in urban areas (7).

1.2 Review of Literature

1.2.1 Knowledge and Awareness of Menstrual Hygiene Practices among adolescent girls

Menstrual hygiene management (MHM) refers to how girls and women manage their monthly period, which necessitates access to menstrual information, clean and safe menstrual absorbents, and amenities and facilities such as restrooms and water, as well as waste management (8)

According to a previous study, Menstruation is the start of a girl's reproductive life. A lack of awareness of menstruation and its associated bad habits may raise the risk of reproductive infections, urinary tract infections, and even cancer. Menstrual issues were observed to be more common in individuals who had irregular periods, changed absorbents infrequently, cleaned insufficiently, and used plain water for cleaning. The study does, however, show that adolescent females' menstrual hygiene is deplorable. As a result, adolescent must be informed about the facts of menstruation as well as necessary hygiene methods (9). A study reveals that only 28.24% of the adolescents knew about menstruation before menarche and 71.76% did not know about it, and majority of the study participants i.e., 91.76% knew that menstruation is a normal process; it has also been observed that mothers were the first to inform adolescent females about menstruation. (10) (6) It has been noticed that tribal adolescent females continue to use ineffective menstrual hygiene methods. Many girls have numerous restrictions during menstruation. It was also discovered that females are hesitant to discuss sensitive topics such as menstruation hygiene; consequently, it is critical to create a safe environment in which everyone can speak openly about their personal experiences with this type of sensitive subject. There is a critical need to raise awareness and improve hygienic behaviours among indigenous adolescent females during their periods. Residential school teachers can play a critical role in this regard (11).

1.2.1a Absorbent material used:

India is the world's second-largest country, with state-by-state diversity in the usage of menstruation absorbents ranging from 93.4 percent in Mizoram to 31% in Bihar (12). According to a previous study, it was found that most females reached menarche at the age of 13 and that

82.3% have a regular menstrual cycle. During menstruation, 78.5% of women used sanitary pads, and 58.0% disposed of absorbent by dumping it in the trash. Most of them got their information about menstruation from their mothers before menarche, and practically all of them had restrictions throughout their menstrual periods (3). According to research conducted in India, the usage of disposable absorbents was low among young women aged 15-24 (37%) and varied significantly by caste, education, status, and residency. However, a survey of sanitary pad use among college students in India found that 80% of them used them (13). Another study found that 74.12% of adolescents used sanitary pads, 18.82% used cloth, and 7.06% used both cloth and sanitary pads during menstruation (10) According to the findings of the study, 69.8% of urban girls and 72% of rural girls used commercial sanitary napkins during their periods, while 15.4% of urban girls and 10.1% of rural girls used reusable cloths. 14.2% of urban girls and 16.3% of rural girls reported using both cloth and pads. Some urban girls (12.1%) and rural girls (12.6%) stated that they were unaware of commercial sanitary pads. They were expensive, according to a few of the urban girls (7.8%) and rural girls (6.9%) (14) Another study in India found that rural schoolgirls who used old garments or material that had been boiled in water and dried before re-use suffered from vaginal infection (15).

1.2.1b Methods of disposal of the absorbent materials:

In approximately 63.53% of cases, used absorbents were discarded with household waste, while 25.88% reused the cloth after washing and 63.64% dried the cloth outside in the sunlight (10) A study reveals that burning, and flushing the used sanitary pads in the toilet were the common methods of disposal by the adolescent girls (16). In urban areas, disposal was primarily through

routine garbage and burning, although in rural areas, burying and tossing away in public locations was also frequent. In cities, routine trash removal was substantially more common while in rural settings burying and throwing away in public spaces was also common. (6) It was intriguing to observe that 28.9% of girls living in urban areas and 46.5% of girls residing in rural areas opted to incinerate their sanitary pads (14).

1.2.1c Government's initiative

Recognising the importance of MHM to girls' health, well-being, and scholastic successes, the Government of India has launched a slew of policies and projects at the state level. Most policy initiatives addressing MHM focus on adolescent girls, with a focus primarily on the hardware (i.e., infrastructure, sanitary napkins) or software (i.e., health education) components. Most programmes are implemented at the school level, while implementation requirements are not always apparent(8) The Government of India's Menstrual Hygiene Plan aims to raise awareness among adolescent girls and provide them with sanitary napkins that are both clean and affordable(17). The Ministry of Health and Family Welfare has launched a programme to enhance menstruation hygiene among rural adolescent females aged 10 to 19. The scheme's goals are to raise menstrual hygiene awareness, provide access to high-quality sanitary napkins, and ensure their safe disposal in an environmentally appropriate manner. The sanitary napkins are distributed by an Accredited Social Health Activist (ASHA), who is compensated for each pack sold. ASHAs also receive a free supply of napkins each month for personal usage. Monthly meetings are held at Aanganwadi Centres or other locations to discuss menstrual hygiene and other sexual and reproductive health issues. The programme aims to enhance menstrual hygiene practises, provide

cheap access to sanitary napkins, and raise period health awareness among adolescent girls in rural areas.(18)

1.2.1d Good menstrual hygiene practices versus poor menstrual hygiene practices:

Good menstrual hygiene practises are advised during menstruation; these practises include: regular changing of clothing and pants; changing of hygienic pads every three to four hours; daily showering, especially in cases of dysmenorrhea; adequate washing of genitalia after each voiding of urine and/or faeces; continuing normal routine and daily activities (e.g. going to school, doing physical exercise); and maintaining a balanced diet with plenty of fruits and vegetables (15)

Numerous MHM studies have been undertaken independently across India to investigate the incidence of social, educational, and health challenges faced by girls with low MHM (6) Menstrual Hygiene Management practices vary depending on socioeconomic status, personal choices, local traditions, and access to water and sanitation resources. Unhygienic Menstrual Hygiene Management practices can be particularly inconvenient for girls and women in poorer settings, and little is known about their potential to increase urogenital infections (19). In India, 43% to 88% of females wash and reuse cotton cloths instead of using disposable pads. However, because washing is generally done without soap and with dirty water, and societal taboos and constraints drive drying indoors, away from sunlight and open-air reusable materials may not be adequately sanitized. Unsanitary washing practices are especially prevalent in rural regions and among women and girls from lower socioeconomic levels. Contextual factors such as access to places where women can manage menstruation-related washing in privacy and comfort are also likely to have an impact on menstrual hygiene management (MHM). These parameters are influenced by access

to water, hygiene, and sanitation facilities in the home, and their association with MHM and urogenital infections has been established (20).

Poor Menstrual Hygiene Management can also lead to Reproductive tract infection (RTI). Bacterial vaginosis (BV) may be more common in women with unhygienic menstrual hygiene management (MHM) practices. Bacterial vaginosis is a type of vaginal inflammation caused by the overgrowth of bacteria naturally found in the vagina, which upsets the natural balance. Women in their reproductive years are most likely to get bacterial vaginosis, but it can affect women of any age. Also, it causes itching and burning sensation, foul smelling, and white vaginal discharge (21). It was shown that 94.8% of rural girls and 92.8% of urban girls both took a bath during their periods, with 87.2% of them using soap in addition to water (14). Compared to urban girls, girls from the rural area burned pads more frequently and were less likely to wash their genitalia with soap (14). 75% of women have a history of genital infection, and 10% of women worldwide are exposed to genital infections each year, including bacterial vaginosis and urinary tract infections. Particularly, inadequate cleanliness is a typical risk factor for vaginal infections(15) Vaginitis affected more than half of the women who did not follow any hygiene practices while having their periods (22)

Adolescent female's reproductive health can be greatly improved by proper knowledge of menstrual hygiene and its use. Good menstrual hygiene is essential for girl's and women's health, education, and integrity (3).

1.3 Specific Research Questions

- What is the prevalence of menstrual hygiene practices in selected study population of India?
- What are the factors that influence menstrual hygiene practices among adolescent girls in this region?
- What are the barriers to adequate menstrual hygiene management among women aged 15-19 years in Jharkhand, India?
- How the study population generally addressing the barriers to adequate menstrual hygiene management?

1.4 Objectives

The primary objective of the study is to determine the proportion of Adolescent girls using sanitary pads and following good hygiene practices in the study population. The specific objective of the study are as follows:

1. To identify the factors that influence menstrual hygiene practices among adolescent girls in Jharkhand.
2. To assess the level of awareness regarding Menstrual hygiene among adolescent girls in Jharkhand.

2.1 Study Design and method:

The study utilizes a Cross-sectional descriptive method to meet the objective of the study.

Cross-sectional studies are observational studies in which data from a population is analyzed at a specific point in time. They are frequently used to assess the prevalence of health outcomes, comprehend health factors, and describe demographic characteristics.

2.1.1 Sample Size:

$$N = \frac{Z^2 * p * q * (1 + R) * (Deff.)}{e^2}$$

Using the formula given above, sample size has been calculated,

Where,

- N = Sample size.
- Z = the z value at 90% confidence level, (here, Z= 1.645).
- P = the prevalence of adolescent girls practicing good menstrual hygiene in Jharkhand i.e., 75.1% [NFHS-5].
- q = 1-p = 1-0.741= 0.249
- R = non-response rate (here, R= 10%).
- Deff. = the design effect (here, Deff. =1.05
- E = the margin of error (here, e= 0.05).

$$N = (1.645)^2 * 0.751 * 0.249 * (1.1) * (1.05) / (0.05)^2 = 234$$

2.1.2 Data Collection:

The data collection was done in the schools and Aanganwadi of the same block where the organization Tata Steel Foundation [TSF] was implementing their other projects including Adolescent Health Project. But it is important to note that the study data was not taken from any other project. So, with the independent semi-structured tool the data was collected.

The data was collected using **Census Method [complete enumeration technique]**. The data was collected from the full class [Grade 9-12], however, those **students not currently menstruating were excluded from the data collection.**

The schools were selected based on those students currently residing in selected blocks - “Mandu” and “Baghmara” of Ramgarh and Dhanbad districts respectively. Therefore, the study utilizes the **purposive but clustered sampling technique** to select the respondent for this study.

Study Population: The targeted population are married and unmarried girls age 15 to 19 years living in selected blocks and villages of Mandu and Baghmara blocks of Jharkhand. Consent was taken from the adolescent girls of age 15-19 years. 10-14 years girls were also included during the meeting for awareness and counseling on menstrual hygiene management but they were excluded from the study.

Study Period: Duration for this study- 3 months (20th Feb to 20th May, 2023)

2.1.3 Sampling method

The study utilizes purposive but clustered sampling technique to reach the target respondent in the Ramgarh of Jharkhand.

Inclusion Criteria: Girls, married and unmarried, aged 15-19 years residing in the 2 blocks i.e., Mandu and Baghmara, who give their informed consent/ assent.

Exclusion Criteria:

- a) 15- to 19-year-old girls who have not given their consent.
- b) 10–14-year-old girls.

2.1.4 Method of Data Collection

Semi-structured questionnaire. The respondent identity details will be anonymous, and related details will not be asked during the survey. Before beginning the study, the head of each school/Anganwadi was consulted. Each participant who participated in the study was given a consent form that was connected to the questionnaire and was asked to proceed only if they agreed to answer the questions. A questionnaire in English was prepared that covered the demographic characteristics of the participants, the participants' education, and menstruation, menstrual hygiene practises among the participants, difficulties faced at school by the participants during menstruation, and source of information about menstruation by the participants. The questionnaire was explained to the girls, and they were then asked to complete it. Following the completion of the questionnaire, the girls were given a lecture on MHM that covered the topics of menstruation, menstrual hygiene management and nutrition.

The study collects the data using pre-structured pretested tools. The tool has following four section, which is given in appendix section.

- Section 1- Socio-demographic profile
- Section 2- General information
- Section 3- Education
- Section 4- Menstrual hygiene management

2.1.5 Study area

The study was conducted in Ramgarh and Dhanbad district of Jharkhand, India. Villages covered from Mandu block were Ichakdih, Karma south, Harkapatthar and Manduchatti. Similarly, Muchraidih, Amadih and Malkera were the villages that were selected from Baghmara block.

Study was carried out in schools and Anganwadis of the above-mentioned villages. And for the school drop outs, meeting was held at community centre to address the issue of menstrual health problems and ways to maintain good menstrual hygiene.

2.1.6 Analytical method

Analysis has been done using descriptive statistics like frequencies, proportions, mean, and standard deviation using SPSS and MS-Excel.

Chapter 3: Awareness about menstrual hygiene practices among adolescent girls of Ramgarh, Jharkhand, India

3.1 Demographic Characteristics and education:

The study was conducted on 234 Adolescent girls of age group 15-19 years, residing in Mandu and Baghmara blocks of Ramgarh and Dhanbad district, Jharkhand. It was reported that out of 234 adolescent girls, there were 217(92.7) girls who were attending school and, 17 (7.3) adolescent girls were not attending school, (Table 3.1) There were various reasons why they left school, 2.6% of the adolescent girls reported that the school was unaffordable, while 1.7% of the girls that domestic responsibilities, others had their marriage; some of them felt that the schools are inaccessible, they also had some health-related issues (Fig. 3.1).

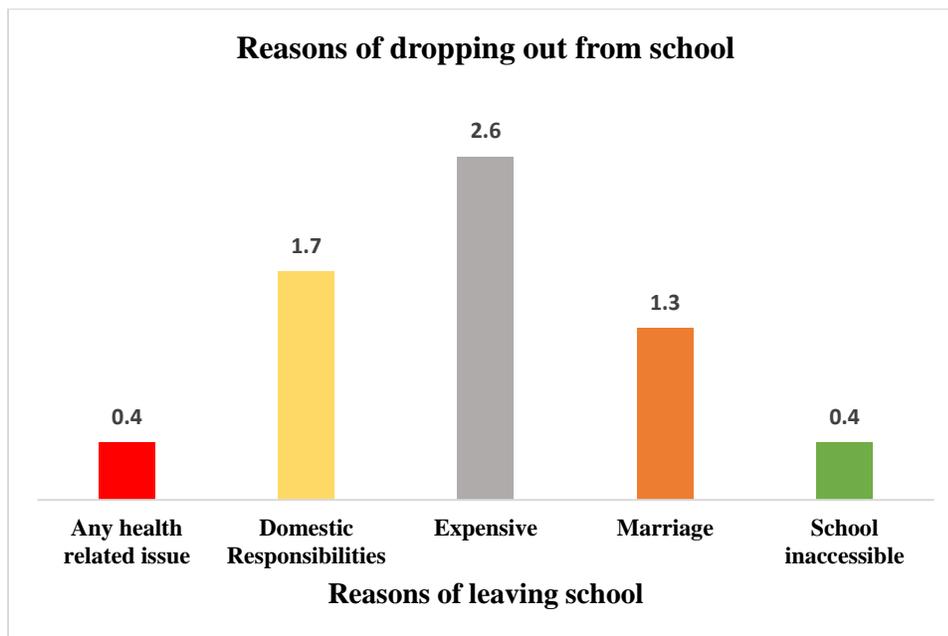
3.2 Result

3.2.1 Demographic profile of the study population

Table 3.1: Demographic profile of the study population

Demographic variable	Number	Percentage
<i>Age</i>		
15-16 years	144	62
17-18 years	68	29
19 years	22	9
<i>Education</i>		
Currently attending school	217	92.7
Not attending school	17	7.3
<i>Place of residence</i>		
Rural	234	100

Figure 3.1: Percentage of girls reporting reason of dropping out from school



This parameter was taken since comprehensive menstrual health education is provided in schools and Aanganwadi. Understanding menstruation is essential for females to manage their periods in a healthy and comfortable manner. Educating them about menstruation reduces stigma and fosters a positive atmosphere. Girls who may not have access to basic menstrual hygiene products, sanitation facilities, or understanding about MHM may struggle to attend school on a regular basis. Period poverty, or the inability to buy period supplies, can lead to absence from school and impede educational progress.

Figure 3.2: Percentage of girls reporting school absenteeism due to facing problem during menstruation

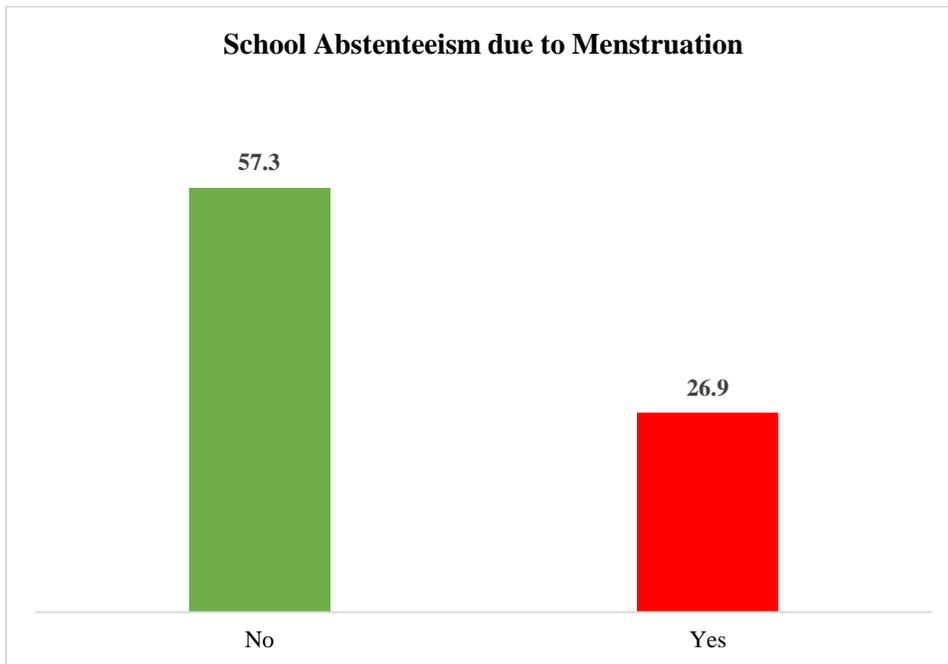
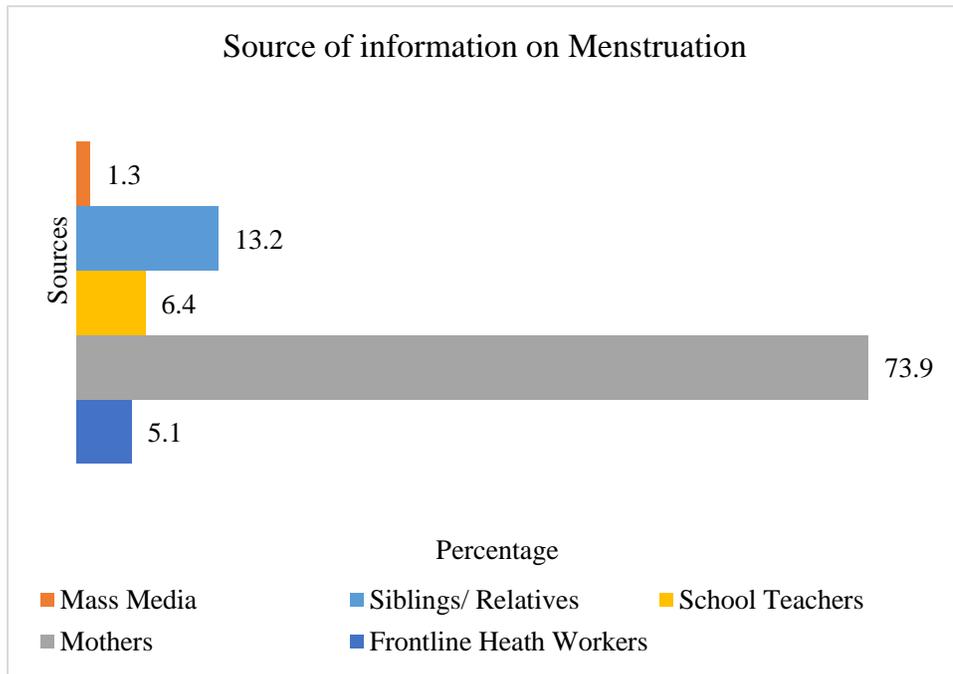


Figure 3.2, shows that roughly 27% of teenage girls had school absence owing to menstruation, whereas 57.3% of females had no absenteeism during their menstruation (Fig.3.2). A large percentage of adolescent females attend boarding school, which has its own hostel. As a result, they were seldom absent throughout the school day. The other females came from other schools as well as Aanganwadi. When asked, many stated that they take leave for 2-3 days owing to menstrual discomfort and heavy bleeding. Girls who are unable to regulate their menstruation might accumulate, affecting their academic performance and overall educational advancement. Schools with proper sanitary facilities, such as private bathrooms, clean water, and menstrual product

disposal alternatives, offer a comfortable atmosphere for females to attend school during their menstrual cycle.

Figure 3.3: Percentage of adolescent women having information about Menstruation by source in Jharkhand, India



The majority of individuals (74%) received information from their mothers, while smaller percentages obtained information from frontline health workers (5.1%), school teachers (6.4%), siblings/relatives (14.3%), and mass media (1.3%) (Fig. 3.3)

These results suggest that mothers play a significant role in providing information on menstrual hygiene and management to their daughters, followed by siblings/relatives, school teachers, frontline health workers, and mass media. School teachers ought to organize sex education and

menstrual health workshops for girls in order to enhance awareness. They should also provide counselling services within the school setting.

3.2.2 Age at Menarche

The values have been classified as Age at menstruation, less than or equal to 13 years or greater than 13 years because when the age at menarche of those adolescent females was investigated, it was discovered that the commencement of menstruation was between the age of 10 years and 15 years. According to the data (Fig. 3.4), 84.8% of the individuals experienced menarche before the age of 13, whereas the remaining participants experienced menarche after the age of 13.

Figure 3.4: Percentage of adolescent girls age at menarche in study population of Ramgarh district, Jharkhand, India

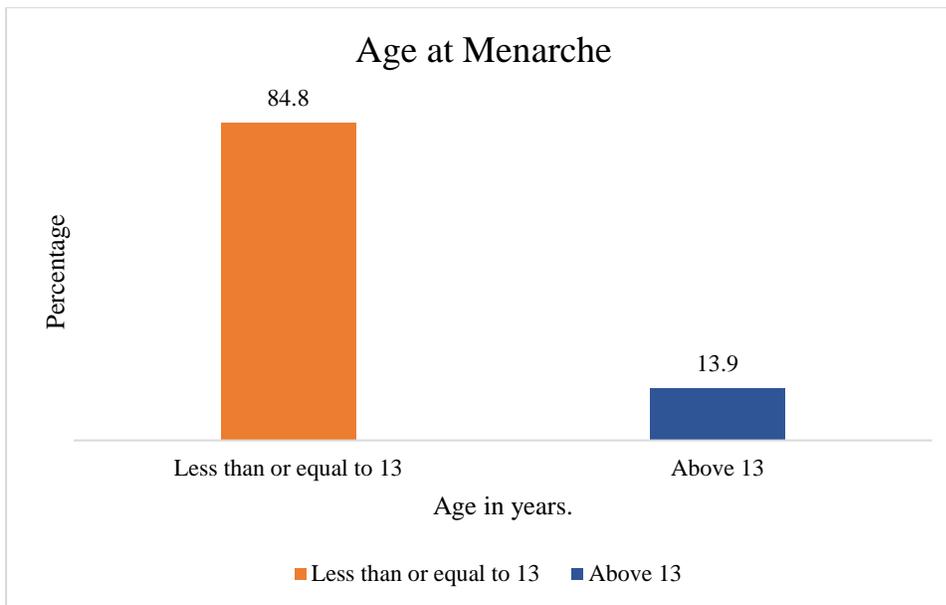


Table 3.2: Summarized data on age at menarche and source of information about menstruation and menstrual hygiene management adolescent girls in selected block of study population

Variable	Number	Percentage
<i>Age at menarche</i>		
≤13	201	84.8
Above 13	33	13.9
<i>Source of information on menstrual hygiene and menstrual hygiene management</i>		
Frontline Health Workers	12	5.1
Mass Media	3	1.3
Mothers	173	74
School Teachers	15	6.4
Siblings/ Relatives	31	14.3

Chapter 4: Familiarization of absorbent material and Menstrual Hygiene Practices during menstruation

4.1 Introduction

In this chapter, we explore how well-versed adolescent girls are in appropriate menstrual absorbent products and efforts focused at enhancing menstrual hygiene in rural locations. Access to the right sanitary products is critical for women's health because menstrual hygiene is a major factor in it.

There are government initiatives in several developing nations, including India, targeted at helping adolescent girls better manage their menstrual hygiene. ASHA workers, or accredited social health activists, are crucial to these programmes. They provide sanitary pads to girls in rural communities as part of their community health duties. These initiatives seek to provide access to menstruation products and instruct young girls on correct disposal and use.

Schools frequently host awareness events where female teachers instruct young women on the usage of sanitary napkins, the benefits of keeping good hygiene while menstruating, and other pertinent topics. Additionally, to guarantee that students have access to hygienic menstrual products, certain schools or self-help organisations take the initiative to give away free sanitary pads to students.

Despite these efforts, some rural women still choose to use cloth during their periods for a variety of reasons, such as a lack of access to disposable sanitary pads or cultural customs. It is essential to emphasise the importance of complete washing and sun drying before reuse for

individuals who use cloth in order to prevent infections. Furthermore, it's crucial to dispose of soiled sanitary pads properly to maintain hygiene and safeguard the environment. It is essential to teach girls the right disposal techniques in order to avoid potential health risks and maintain cleanliness in the neighbourhood.

4.2 Result

Figure 4.1: Percentage of adolescent girls using absorbent material by types

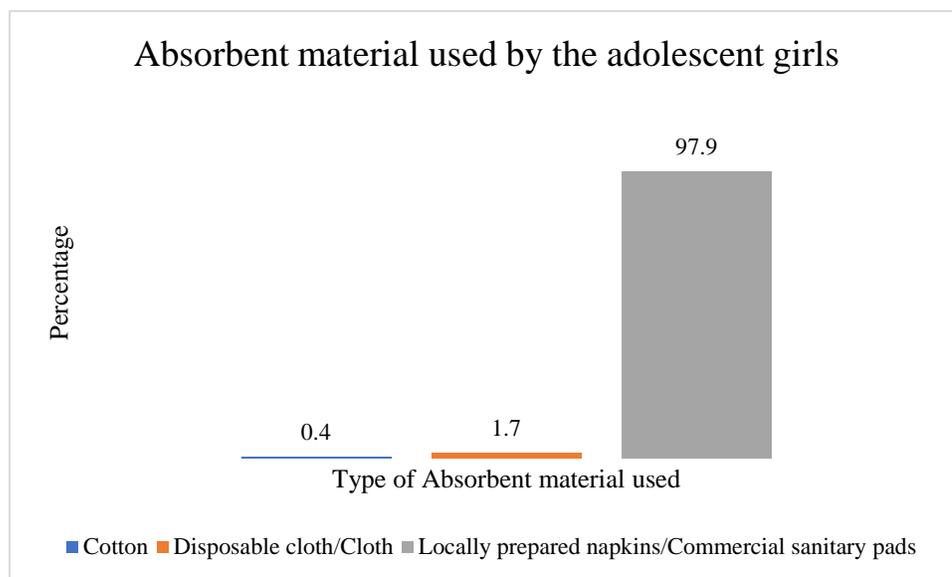
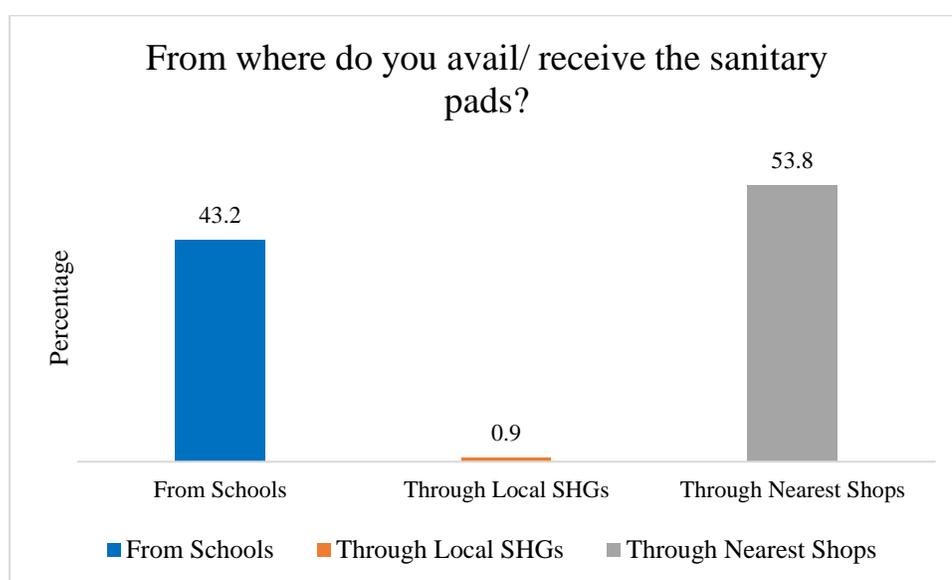


Figure. 4.1, shows 97.9% of girls use commercially available sanitary pads/ locally prepared napkins as the absorbent material during their menstruation, while 1.7% use cloth and rest of them use cotton. So, the issue arose: Where do they get sanitary pads from if so many participants use them?

When asked about their source of sanitary pads, 53.8% of the adolescent girls reported obtaining them from nearby shops, while 43.9% stated that they receive their supply from school (Fig.4.2)

In the boarding school of Baghmara block, sanitary pads are provided to the students by Hostel Warden. Another noteworthy observation is the lack of sanitary pad distribution in the Aanganwadi centres by the Sahiyas, indicating a gap in the availability of menstrual hygiene management resources in those specific settings.

Figure 4.2: Percentage of adolescent girls received absorbent product during menstruation by source of menstrual absorbent product



Anganwadis play a vital role in offering essential services to women and children, including health and nutrition support. Therefore, the absence of sanitary pad distribution raises concerns regarding the adequacy of menstrual hygiene support within these centres.

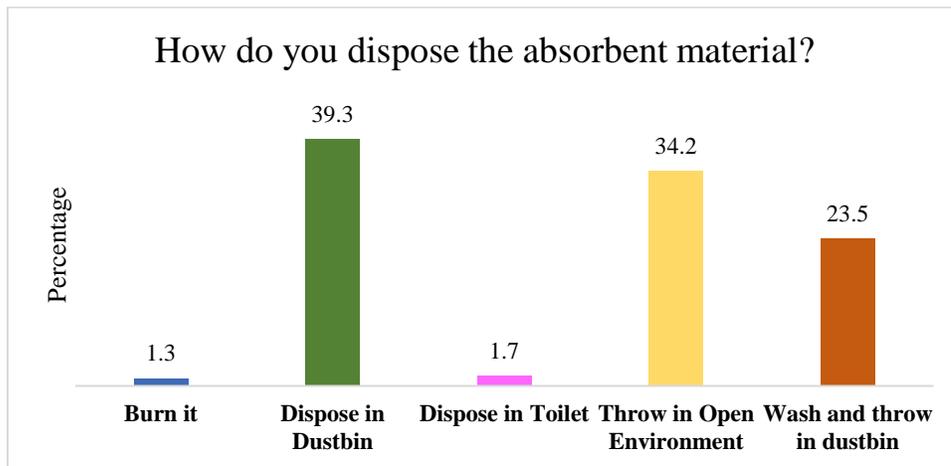
However, despite the absence of formal distribution, it is commendable that one Sahiyya took the initiative to personally buy pads and provide them to girls in need, of Ichakdih village. This highlights the dedication and empathy of the Sahiyya towards addressing the menstrual hygiene

needs of the girls. By taking on this responsibility, the Sahiya ensured that the girls had access to sanitary pads, even though the distribution was not officially facilitated.

The Sahiyya charged Rs. 5 for each pad. While the cost may be relatively low, it is important to consider the affordability and accessibility of menstrual products for girls from economically disadvantaged backgrounds. Access to affordable menstrual products is crucial to ensure that girls can manage their menstruation in a hygienic manner without financial burdens. Therefore, it is important to explore options for providing free or subsidized sanitary pads to ensure equitable access for all girls.

In the context of the boarding school named Kasturba Gandhi Balika Vidyalaya, Mandu block; it is positive that the warden took the responsibility to distribute pads to the girls residing and studying within the premises.

Figure 4.3: Percentage of adolescent girls disposed the used absorbent material



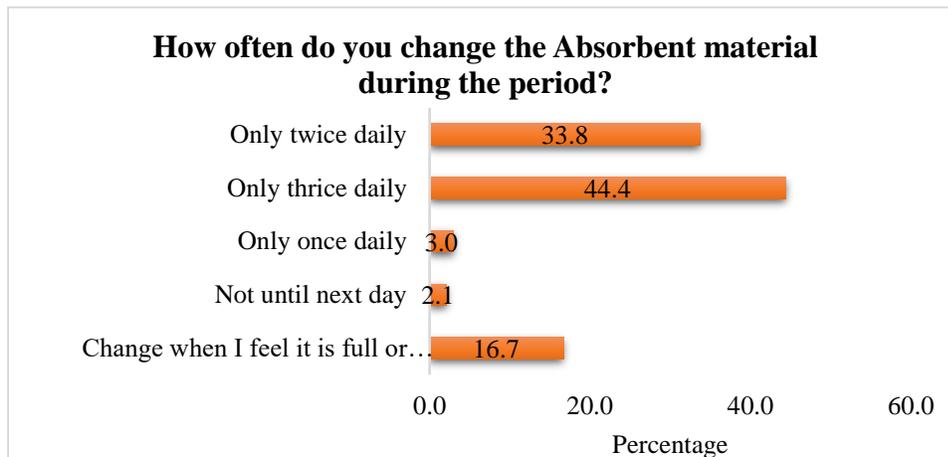
The figure 4.3 indicates that about 39.3% of the adolescent girls who use sanitary pads dispose the used pads in dustbin, while 34.2% of them throw the used pads in open environment or burry nearby rivers or behind their houses. 24.5% girls wash and throw the pads in dustbin (Fig. 4.3).

4.2.1 Menstrual Hygiene Practices

The adolescent girls were asked about the menstrual hygiene practices they follow, the parameters that were taken to verify the MHM amongst them were, a) proper disposal of the used absorbent material, b) how often the sanitary pads are changed, c) if any of the participants are using cloth, washing and sun drying of the cloth, d) washing hands before and after changing pads, e) taking bath daily during menstruation.

As mentioned, there were 229(97.9%) of the participants who use commercially available sanitary pads, while 1.7% of the total participants use cloth and remaining 0.4% use cotton (Table 5.1). Those who were using sanitary pads, they were asked how many times in a day they change their pads, the data recorded was for the first two days of their menses.

Figure 5.1: How often the adolescent girls change their absorbent material



The figure 5.1 shows that the most common frequency of changing absorbent material during the period is three times daily (44.4%), followed by twice daily (33.8%). A smaller percentage of individuals change their absorbent material when they feel it is full or in need of a change (16.7%), only once daily (3.0%), or not until the next day (2.1%) (Fig. 5.1)

Many adolescent girls said that the reason for changing pads once a day or retaining them for the entire day were a) Hypomenorrhea (*Hypomenorrhea is a medical term used to describe a menstrual cycle with diminished or reduced menstrual flow. Women with hypomenorrhea may have lighter and shorter periods than what is considered normal for them or the general population*), b) Inadequate knowledge, c) Irregular periods.

Those participants who use cloth as an absorbent, were asked if they wash and sun-dry the cloth for re-using it, it was found that out of 5 girls, 4(1.7%) were washing the cloth and drying in sun, before using it again and there was 0.4% who were not following this. (Table 5.1)

In the present study, there were 76.1% of the adolescent girls who were washing their hand before and after changing pads, whereas 16.2% of the girls said that they wash their hands most of the times, while 2.6% of the adolescent girls said that they never wash their hands while changing pads (Table 4.1)

Despite progress in menstrual hygiene awareness, there still exists a prevalent taboo surrounding bathing during menstruation. Many females hold the belief that taking a bath while menstruating can prolong the duration of their menstrual cycle. Additionally, there is a common misconception that bathing during this time can lead to increased bleeding.

Table 4.1: Menstrual Hygiene Practices among adolescent girls

Variable	Number	Percentage
<i>Absorbent materials used during menstruation</i>		
Cotton	1	.4
Disposable cloth/Cloth	4	1.7
Locally prepared napkins/Commercial sanitary pads	229	97.9
<i>Mode of disposal</i>		
Burn it	3	1.3
Dispose in Dustbin	92	39.3
Dispose in Toilet	4	1.7
Throw in Open Environment	80	34.2
Wash and throw in dustbin	55	23.5
<i>If use cloth, then wash and sundry it</i>		
No	1	.4
Yes	4	1.7
<i>Wash hands, before and after changing pads</i>		
Always	178	76.1
Most of the times	38	16.2
Never	6	2.6
Sometimes	12	5.1

Variable	Number	Percentage
<i>Take bath during menstruation</i>		
No	10	4.3
Sometimes	57	24.4
Yes	167	71.4

It is encouraging to note that a significant majority of girls, specifically 71.4%, disregard these taboos and continue to take baths during their menstruation. This demonstrates a positive shift in attitudes and practices, as these girls prioritize personal hygiene and well-being over unfounded myths (Table 4.1)

It is crucial to challenge and debunk such taboos through comprehensive education and awareness campaigns. By providing accurate information about menstrual hygiene management, dispelling myths, and promoting good hygiene practices, we can empower girls to make informed decisions and take care of their health and well-being throughout their menstrual cycles.

Questions were asked to front-line health workers about hygiene and sanitation in schools specifically concerning adolescent girls. The information gathered from these workers revealed several important points. Firstly, it was reported that the schools had separate toilets for girls and boys, which is a positive step towards ensuring privacy and gender-specific needs. However, a concerning issue arose as the toilets were found to be unclean. This lack of cleanliness implies that the school children, especially the adolescent girls, are at risk of contracting infections or illnesses due to the unsanitary conditions of the toilets.

Additionally, the statement highlights the presence of water supply facilities in schools, indicating that there is a potential for maintaining proper sanitation. However, it is mentioned that there is a shortage of water for sanitation in Anganwadi and Community centres.

5.1 Introduction

Menstruation and how it is managed have emerged as a global public health issue. People and diverse stakeholders are mobilising throughout the world to raise attention and resources to address the menstrual-related shame, humiliation, and taboos that many girls in poor and middle-income countries face (15)

The research intends to study the age of menarche, menstrual cycle, menstrual hygiene practices, obstacles encountered by the girls while attending school, and WASH facilities at school, among the girls of Jharkhand's Mandu and Baghmara blocks.

The research was carried out in schools and Aanganwadis that serve girls from moderate and lower socioeconomic backgrounds. This study includes adolescent girls from 15-19 years of age. Out of 234 adolescent girls the majority of the females in this study reached menarche when they were less than or equal to 13 years old. Likewise, over 50% of the students participating in a similar study reported experiencing menarche at ages ranging from 12 to 15 years. This finding aligns with previous studies that also observed the onset of menstruation occurring between the ages of 11 and 15 years (15,23) The majority of young girls received knowledge about menstruation and menstrual hygiene management from their mothers(74%), siblings(14.3%), and teachers(6.4%). It is common in other studies too, that the main source of information being a mother was 44.71% of the subjects (10)

The level of education emerged as a significant factor influencing the exclusive use of hygienic methods among adolescent women in rural areas. Adolescent women with higher education

showed a greater tendency to adopt hygienic methods compared to those with no formal education (7).

5.2 Conclusion

In this study, almost 93% of the adolescent girls were currently attending schools and were familiar with menstruation. In this study it was seen that almost 27% of the girls had school absenteeism due to improper management of menstruation, it is one of the restriction that stays with the adolescent girl during her periods, keeping precious texts separate and without touching them (3).

While the majority of girls in our study utilized sanitary napkins, a portion of them opted for cloth as their absorbent material. Those 1.7% who were using cloth were guided on how to re-use the cloth for menstruation (wash and sun-dry); since Genital infections can result from improper cloth use and improper washing and drying (14) Sanitary pad usage among the adolescent girls during menstruation was seen in 78.5%, followed by usage of new cloth (13%) (3) but in this study 97.9% female uses sanitary pad and 1.7% uses cloth. The number of absorbents used each day was satisfactory, with the majority of girls (95, 48%) using 3 pads each day. In a study by Dhara J Prajapati, the majority of participants (77%) changed their absorbent between one and two times each day, and 51.5% of the girls recycled a piece of clothing(24) In our study, the participants, changed their pads thrice daily were 44.4%, while there were few females (33.8%) who used to change the absorbent material twice daily during their menses.

Among adolescent girls who use sanitary pads, 39.3% of them dispose of the used pads in dustbins, while 34.2% of them throw the used pads in open areas, bury them near rivers, or behind their houses. Additionally, 24.5% of girls wash the pads and then discard them in the trash. This shows

varied practices in the disposal of sanitary pads, with a notable percentage opting for environmentally unfriendly methods. Proper waste management and disposal education are crucial to address this issue. Another study reveals that 58.0% of people disposed of them by tossing them in the trash, however a somewhat higher percentage of people (69%) in urban areas chose this technique (3) Washing hands before and after changing pads, also taking bath during menstruation are the important factors that are included in good menstrual hygiene practices. Most of the girls(71%) take bath during their periods. A similar study suggests that 76.14% of the female took bath with soap and water during their menses (24)

The inclusion of several adolescents from various villages in the Mandu and Baghmara blocks of Jharkhand is this study's key strength. It is challenging to dismiss the results of this study because of the size and level of participation. Despite this, the study does have a limitation. Lacking qualitative data, the cross-sectional nature of the data may conceal the causal effect linkages of various components. Additionally, we used a convenience sampling technique to pick study participants, which has drawbacks such as selection bias and non-generalizability. Our study gave some insight into menstrual awareness and habits among rural adolescent girls, but more study is required to have a thorough understanding of the problem.

In conclusion, this research sheds light on the importance of addressing menstruation as a global public health issue, particularly focusing on the challenges faced by adolescent girls in the Mandu and Baghmara blocks of Jharkhand. The study explored various aspects related to menstruation, including the age of menarche, menstrual hygiene practices, school attendance obstacles, and access to Water, Sanitation, and Hygiene (WASH) facilities.

The research was carried out in schools and Anganwadi that serve girls from moderate and lower socioeconomic backgrounds. Most of the females in this study reached menarche when they were less than or equal to 13 years old. The findings support prior evidence suggesting menarche occurs mostly at a young age. Family members and teachers are the primary sources of information on menstruation and menstrual hygiene, with mothers being the main source of information. Education revealed as a crucial component affecting sanitary technique adoption.

The study underlines the importance of proper menstrual hygiene management in schools, since some girls were absent due to poor menstrual management. While the majority of girls used sanitary pads, a small percentage continued to use cloth, which might lead to hygiene issues. The disposal of obsolete pads prompted environmental concerns, emphasising the significance of waste management education.

To address the menstrual-related shame, humiliation, and taboos that impact girls in these regions, stakeholders, policymakers, and communities need to come together and provide comprehensive menstrual health education, access to hygienic products, and improved WASH facilities. . Education and awareness campaigns are essential to challenge prevalent taboos and misconceptions surrounding menstruation, empowering girls to make informed decisions and prioritize their personal hygiene. To address these gaps, it is necessary to establish comprehensive menstrual hygiene management programs that ensure the provision of free or subsidized sanitary pads, improve sanitation facilities in schools and Aanganwadi centres, and promote proper disposal practices. By working collectively, empowerment of these girls can be done and their

health, dignity, and educational opportunities can be promoted for a better and more equitable future.

5.3 Limitations

Due to short duration of the study convenience sampling was done. The results of the study cannot be generalised due to the response bias resulting from the sampling technique and sample size estimation and thus resulting in limited generalizability. Response bias was observed in the study due to the reluctance of adolescent girls to openly discuss menstruation and disclose their personal hygiene practices. There was limited information on social norms, religious beliefs, and cultural taboos. Also, there was lack of follow-up or impact assessment.

5.4 Strength of study and Recommendations

- The Organization may conduct regular awareness programs specifically tailored for adolescent girls, focusing on educating them about good menstrual hygiene practices to be organized in schools, community centres, and other relevant settings.
- RISHTA Project may address the financial barriers that some girls face in accessing menstrual hygiene products.
- Training of adolescent health facilitators.
- Collaborating with schools, parents, community leaders, and healthcare professionals to create a supportive environment for adolescent girls.

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Appendices

Annexure 1: Form- Survey Tool

Title: *Cross-sectional study on Menstrual Hygiene Practices among Adolescent Girls in Mandu and Baghmara blocks of Jharkhand, India*

Consent form

Namaste!! My name is Dr. Deepti Sidar. I am working with Tata Steel Foundation. We are conducting a survey about Menstrual Hygiene Practices among Adolescent girls in districts of Jharkhand. The information that we collect from the individuals will help the government to plan health services. I would like to ask you some questions about your methods of practice during Menstruation. The questions usually take about 15-20 minutes.

All the answers you give will be confidential and will not be shared with anyone other than members of our survey team. Your participation in the survey is voluntary. If I ask you any question you do not want to answer, just let me know and I will go on to the next question or you can stop the interview at any time.

If you have any questions about this survey, you may ask me.

If you have any further questions about this survey, you may contact the team members.

Do you agree to participate in this survey?

1. Agree -> Start Interview

2. Not agree-> End the Interview

Name of Respondent: _____

Name of Interviewer: _____

SOCIODEMOGRAPHIC PROFILE			
Q. No	QUESTION	CATEGORY	SKIP
1.	State:		
2.	District:		
3.	Sub-district/Block:		
4.	Ward/Village		
5.	Household No.		
6.	Individual No. [Number of interviews]		

GENERAL INFORMATION			
Q. No	QUESTION	CATEGORY	SKIP
7.	What is your name?		
8.	How old are you?	_____ [in completed Years]	
9.	What is your current place of residence?	a) Rural b) Urban	
10.	Do you have regular period?	a) Yes b) No.	
11.	What was your age at menarche?	_____ [in completed Years]	

EDUCATION			
Q. No	QUESTION	CATEGORY	SKIP
12.	Have you ever attended school?	a) Yes b) No.	
13.	Are you currently attending school?	a) Yes b) No	
14.	If, not why?	a) Expensive b) Domestic Responsibilities c) School inaccessible d) School infrastructure e) Pregnant f) Any health-related issues	

		g) Difficult to go alone f) Other	
15.	Are you regular in school	a) Yes b) No	
16.	Did you have school absenteeism due to Menstruation in last 12 months?	a) Yes b) No	
17.	Can you please tell me, for how long the absenteeism for the above reason continued for?	a) 1 day b) 2 days c) 3 days d) More than 3 days.	

MENSTRUAL HYGIENE MANAGEMENT			
Q.No.	QUESTION	CATEGORY	SKIP
18.	Which absorbent materials did you use when you had your last period?	Locally Prepared Napkins/ sanitary pads Disposable cloth/ Cloth Cotton Use nothing e) Use other (specify)	
19.	From where do you avail/ receive sanitary pads?	Through Local SHG Groups Through Nearest shops From schools From Aanganwadi centres.	
20.	How often do you change the Absorbent material during the period?	Change when I feel it is full or need to change Only Thrice Daily Only Twice Daily Only Once Daily Not, until next day	
21.	If you are using cloth then, do you wash and sundry it?	a) Yes b) No	
22.	How do you dispose the Absorbent material?	Wash and throw in dustbin Dispose in Dustbin Dispose in Toilet Throw in Open Environment Burn it	

		Other [Specify]....	
23.	Do you wash hands with soap water before and after changing pads?	Always Most of the time Sometimes Never	
24.	Do you take a bath daily during Menstruation?	Yes No Sometimes	
25.	How did you get the information on Menstrual Hygiene Management? Through....	Mothers Siblings/ Relatives Teachers FHW Mass media Newspaper	

Annexure 2: Plagiarism Report



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CERTIFICATE ON PLAGIARISM CHECK

Name of Student (in block letter)	Dr. Deepti Sidar		
Enrolment/Roll No.	PG/21/029	Batch Year	2021-2023
Course Specialization (Choose one)	Hospital Management	<u>Health Management</u>	Healthcare IT
Name of Guide/Supervisor	Dr/ Prof.: Mukesh Ravi Raushan		
Title of the Dissertation Assignment	Cross-sectional study on Menstrual hygiene practices among Adolescent Girls in Mandu and Baghmara blocks of Jharkhand, India		
Plagiarism detects software used	"TURNITIN"		
Similar contents acceptable (%)	Up to 15 Percent as per policy		
Total words and % of similar contents Identified	7338 words and 14% of similar contents identified.		
Date of validation (DD/MM/YYYY)	1.8.2023		

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